IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: Application of: Karczewicz et al.
Serial No.: 10/797,467
Filed: March 9, 2004

Attorney Docket: 944-001.130
Group Art Unit: 2631
Examiner: Christopher G. Findley

For: **METHOD AND SYSTEM FOR SCALABLE BINARIZATION OF VIDEO DATA**

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

This Pre-appeal Brief Request for Review is in response to the final office action, mailed February 22, 2008. In the patent application, claims 1-25 are pending. In the office action, all pending claims are rejected.

At section 2, claims 19-23 are rejected under 35 U.S.C. 101 for directing to non-statutory subject matter. The Examiner errs in stating that independent claim recites "A software product". It is respectfully submitted that claim 19-23 are directed to "A computer readable medium embedded with a software product". While the claim language is not the same as "A computer program medium stored thereon a computer program", as suggested by the Examiner, claims 19-23 are not directed to a non-statutory subject matter. Upon an indication of allowable subject matter, applicant will address the issue of non-statutory subject matter and amend the claims as suggested.

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Marie E. Forte

At section 4, claims 1-8 and 10-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *van der Schaar et al.* (U.S. Patent No. 6,788,740 B1, hereafter referred to as *Schaar*), in view of *Eshet et al.* (U.S. Patent Application Publication No. 20060244840 A1, hereafter referred to as *Eshet*).

It is respectfully submitted that the invention as claimed in claim 1 has the following limitations:

1) obtaining intervals at least partially based on a quantization step-size of an enhancement layer and reconstructed values of the enhancement layer coefficients associated with at least one of a plurality of layers including said enhancement layer, other enhancement layers and the base layer;

2) refining the intervals at least partially based on the relationship between the predicted values, the original coefficients and the intervals.

3) re-computing the reconstructed values; and

4) reducing the quantization step-size for a next coefficient and a next enhancement layer.

The Examiner particularly points to *Schaar* (column 3, line 56 through column 4, line 10; column 4, lines 37-46) to show that *Schaar* discloses obtaining intervals at least partially based on a quantization step-size of an enhancement layer and reconstructed values of the enhancement layer coefficients associated with at least one of a plurality of layers including said enhancement layer, other enhancement layers and the base layer.

Applicant respectfully disagrees.

At col.3, line 56-col.4, line 10, *Schaar* discloses:

A controller associated with the enhancement layer circuitry capable of receiving a quantization parameter associated with the base layer video data and determining therefrom at least one all-zero bit plane associated with at least one block of the enhancement layer video data, wherein the controller is capable of causing the enhancement layer circuitry not to transmit the at least one all-zero bit plane to the streaming video receiver. According to one embodiment of the present invention, the quantization parameter is associated with a frame of the base layer video data. According to another embodiment of the present invention, the controller determines an upper boundary of a quantization parameter associated with the at least one block.

In the above paragraph, *Schaar* is concerned with two items:

A. received quantization parameter associated with a base layer;

B. all-zero bit plane associated with the enhancement layer which can be determined from the received quantization parameter.

The quantization parameter is associated with a frame of the base layer, or its upper bound is associated with a block.

At col.4, lines 37-46, *Schaar* discloses:

According to another embodiment of the present invention, the controller determines an upper boundary of a quantization parameter associated with the at least one block. According to yet another embodiment of the present invention, the controller is further capable of receiving a weighting matrix associated with the base-layer video data and determining the at least one all-zero bit plane as a function of the quantization parameter and the weighting matrix.

In the above paragraph, *Schaar* is concerned with determining the all-zero bit plane as a function of the quantization parameter and the weighting matrix.

Thus, the paragraphs in *Schaar* that the Examiner relies upon in rejecting claim 1 are only concerned with determining all-zero bit plane associated with the enhancement layer which can be determined from the received quantization parameter associated with the base layer or from both the received quantization parameter and the weighting matrix.

In contrast, the claimed subject matter is concerned with at least three items:

A. quantization step-size of an enhancement layer;

B. reconstructed values of the enhancement layer coefficients associated with at least one of the enhancement layers and the base layer; and

C. intervals determined based on the quantization step size and the reconstructed values.

In the claimed invention, the quantization step-size and the reconstructed values of the coefficients are different matters.

In the above-cited paragraphs, *Schaar* fails to mention the quantization step size of the enhancement layer. Furthermore, the only item associated with the enhancement

layer is the all-zero bit plane. The Examiner seems to suggest that the reconstructed values of the enhancement layer coefficients are equivalent to the all-zero bit-plane.

Furthermore, the Examiner **admits** that *Schaar* **fails** to disclose the step of re-computing the reconstructed values, but points to *Eshet* to disclose that feature. In particular, the Examiner cites *Eshet* for disclosing re-computing the reconstructed values and reducing the quantization step-size (paragraph [0027]).

Applicant respectfully disagrees. In paragraph [0027], *Eshet* discloses:

An aspect of the invention is that the compressed representations of the media stream have the same format as the original medial layer data. For example, assuming that the original media stream is MPEG compliant. Such a media stream includes DCT coefficients that were quantized using a uniform quantizer that is characterized by an original quantizer value. Re-quantizing the original media stream using various quantizing scales generates compressed representations of the media stream. The base media layer is generated by the largest (most coarse) quantizing scale, while other compressed representations of the original media stream (also referred to as intermediate media layers) are generated by re-quantizing the original media stream by quantizer values that are smaller than the base quantizing scale but larger than the original quantizing scale. Accordingly, each compressed representation of the original media stream is also MPEG compliant.

In the above paragraph, *Eshet* discloses that the base media layer is generated by the largest (most coarse) quantizing scale, while other compressed representations of the original media stream (also referred to as intermediate media layers) are generated by re-quantizing the original media stream by quantizer values that are smaller than the base quantizing scale but larger than the original quantizing scale.

It is not clear where in the above cited paragraph does *Eshet* disclose reconstructed values of the enhancement layer coefficients based on which, together with the quantization step size, are used to determined the intervals for scalable media data coding. Furthermore, the item that is associated with the enhancement layer in *Schaar* is the all zero bit-plane. *Eshet* has nothing to do with the all zero bit-plane or to re-compute the all zero-bit plane.

In sum, *Shaar* at least fails to disclose 1) obtaining intervals at least partially based on a quantization step-size of an enhancement layer and reconstructed values of the enhancement layer coefficients associated with at least one of a plurality of layers including said enhancement layer, other enhancement layers and the base layer; and 3) re-computing the reconstructed values. *Eshet* fails to disclose reconstructed values or re-computing the reconstructed values. Thus, the cited *Shaar* and *Eshet* references, whether used individually or in combination, fail to render claim 1 obvious.

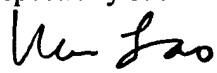
Independent claims 11, 19 and 24 also have all the limitations of claim 1. For the same reasons, the cited *Shaar* and *Eshet* references, whether used individually or in combination, fail to render claims 11, 19 and 24 obvious. Claims 2-8, 10, 12-24 and 25 are dependent from claims 1, 11, 19 and 24. For the above reasons, they are also distinguishable over the cited *Shaar* and *Eshet* references.

At section 5, claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Schaar*, in view of *Eshet*, further in view of *Wu et al.* (U.S. Patent No. 6,700,933 B1, hereafter referred to as *Wu*). The Examiner cites *Wu* for disclosing how to emit an interval value. It is respectfully submitted that claim 9 is dependent from claim 1 and recites features not recited in claim 1. For reasons regarding claim 1 above, claim 9 is distinguishable over the cited *Schaar*, *Eshet* and *Wu* references.

CONCLUSION

Claims 1-25 are allowable. Early allowance of claims 1-25 is earnestly solicited.

Respectfully submitted,



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